

Application Ser. No. 10/729,576
Supplemental Rule 116 Amendment

Attorney Docket No.: 60409CON(50370)

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AMENDMENTS TO THE CLAIMS

Please cancel without prejudice or disclaimer claims 1-4, 6, 8-10, 14-20 and 22-25, please amend claims 27, 30, 31, 34, 35 and 36 and please add claims 43-46. The following listing of claims will replace all prior versions, and listings, of claims in the application.

Claims 1-25 (Cancelled)

26. (Previously Presented) A method for identifying a test compound that modulates a heterologous receptor in a MAT α *Saccharomyces cerevisiae* cell, said method comprising: providing a MAT α *Saccharomyces cerevisiae* cell which comprises a heterologous receptor that is functionally integrated into a pheromone response pathway of said cell, wherein cell surface presentation of a detectable signal comprising a protein product of the AGA2 gene is induced upon activation of said pheromone response pathway and wherein said *S. cerevisiae* cell has the endogenous AGA1 gene deleted, such that the AGA2 gene product is secreted; contacting said cell with a test compound; and detecting the level of expression of said detectable signal as a measure of the ability of said compound to modulate signaling via said heterologous receptor.

27. (Currently Amended) The method of claim 26, wherein said detection step comprises: binding of said secreted AGA2 gene product to a support; incubating said support with a ~~detection~~ detector molecule conjugated with a reporter moiety; and measuring the readout from said reporter moiety.

28. (Original) The method of claim 27, wherein said support comprises streptavidin-coated SPA beads containing scintillant.

29. (Original) The method of claim 28, wherein binding of said secreted Aga2 protein to said support is mediated by a biotinylated antibody, wherein said antibody binds specifically to the secreted Aga2 protein and also to said streptavidin-coated bead.

30. (Currently Amended) The method of claim 27, wherein said ~~detection~~ detector molecule is the Sag1 protein.

Application Ser. No. 10/729,576
Supplemental Rule 116 Amendment

Attorney Docket No.: 60409CON(50370)

31. (Currently Amended) The method of claim ~~30~~27, wherein said ~~Sag1~~ protein ~~comprises amino acids 20-352 of the mature protein~~ reporter moiety comprises a polypeptide selected from the group consisting of beta-lactamase, peroxidase, luciferase, and alkaline phosphatase.

32. (Original) The method of claim 27, wherein said reporter moiety is a radiolabel.

33. (Original) The method of claim 32, wherein said radiolabel is ^{125}I or ^3H .

34. (Currently Amended) The method of claim 27, wherein said readout ~~detection~~ measuring step comprises detection of emitted light.

35. (Currently Amended) The method of claim ~~2~~or 26, wherein said heterologous receptor is a G-protein coupled receptor.

36. (Currently Amended) The method of claim ~~2~~or 26, wherein said heterologous receptor is selected from the group consisting of melatonin receptor 1a, galanin receptor 1, neurotensin receptor, adenosine receptor 2a, somatostatin receptor 2, and corticotropin releasing factor receptor 1.

37. (Original) The method of claim 36, wherein said heterologous receptor is melatonin receptor 1a.

38. (Original) The method of claim 35, wherein said heterologous G-protein coupled receptor functionally couples to the endogenous yeast GPA-1 protein subunit.

Claims 39-42 (Cancelled)

43. (New) The method of claim 27, wherein said reporter moiety is a fluorophore.

44. (New) The method of claim 27, wherein said readout measuring step comprises a fluorescence polarization technique.

Application Ser. No. 10/729,576
Supplemental Rule 116 Amendment

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45. (New) The method of claim 26, additionally comprising an extraction step, wherein said cell-surface expressed detectable signal is extracted from the cell prior to said detection step.

46. (New) The method of claim 45, wherein said extraction step comprises treatment of said cell with a reducing agent.